The last few pages of the Journal are occupied by an address delivered last February by Prof. Wm. M. Davis "On the Circulation of the Atmosphere." In this article Professor Davis endeavors to correct some errors that are sadly prevalent both in Great Britain and her colonies. Explanations that were accepted many years ago are still repeated in spite of the great advance that has taken place during the past thirty years in the views of those who are recognized as the leaders of modern theoretical meteorology. Professor Davis' address reminds us of the following remarks lately made by the Editor:

There are those who adhere to the opinion that the observer and statistician is the one best calculated to determine the causes and the processes that lie behind his observed phenomena. There are others who think that the pure mathematician and mechanician can best deal with these problems of cause and effect. A third class holds that the experimental physicist is the highest authority. Thus it happens that meteorology has during the past century been taught by three classes of authorities, each of whom found it difficult to perceive the force of the arguments of the other side. At the present moment, England, France, Germany, and America, respectively, still have distinguished members of each of these schools busily disseminating different views of the same subject. Fortunately, however, the leading tendency is everywhere toward a proper combination of observation, experiment, and theory; and we are rapidly nearing the day when the good work done in the mechanics of the atmosphere by Ferrel, Helmholtz, Oberbeck, von Bezold, Bjerknes, Margules, James Thomson, and other mathematical writers will be fully understood and appreciated by every real student, and when the experimental work of a host of prominent physicists will also be assimilated by all. Among recent works it is those of William Ferrel that most prominently stand out as cosmopolitan. Meteorological statistics, experimental data, and mathematical mechanics were drawn upon by him at every point in his efforts to elucidate atmospheric phenomena. His work still stands at the head of all, and if in any point it is to be amended in the future, it will only be when newer observations and higher mathematical powers become available for the attack on the difficult problems of meteorology.

To the ordinary reader the report on "Government Meteorological Organizations in Various Parts of the World," an address delivered on January 18 by F. Campbell Bayard, L. L. M., President of the Royal Meteorological Society, will be esteemed as the most satisfactory, most complete and authoritative statement yet published of the condition of official meteorology throughout the world. The address proper occupies eighteen pages and the appendix, giving original details, fills thirty-five pages additional. Thirty-five different organizations are enumerated as maintained by a corresponding number of countries or colonies. Of course it is impossible here to summarize the innumerable details. Perhaps the importance of meteorological work at the present time is best expressed by the table given by President Bayard, showing the amount of money granted specifically for meteorology. In most of these cases the sums appear small as compared with that expended by the United States, but they would generally be largely increased if other countries paid in cash for telegraphy, and employed the whole time of many men in distributing maps and forecasts, answering telegrams and telephones, and otherwise devoting themselves wholly to meteorological work. The annual appropriation by the United States averages about 32 cents per square mile of territory, or 1½ cents per inhabitant. In the other countries the rates vary considerably, but in no case are they at all comparable with the vast interests that are protected and benefited.

The Royal Society has earned a debt of gratitude by collecting and publishing these sixty pages of meteorological information.

THE DIURNAL VARIATION OF THE BAROMETER.

This subject is one that has been treated most exhaustively from an observational point of view by Hann who has, in numerous papers, summed up the results of his own and other investigations. In general he concludes that the twenty-four hour or daily component of the regular barometric oscillation must be due to the direct action of the sun's heat, but that the twelve hour, or semi-diurnal term which exhibits the greatest uniformity over the whole globe must be due to some cosmic influence, whose nature has not yet been suggested or suspected.

In the presence of Hann's exhaustive monographs and this check upon his efforts to arrive inductively at some reasonable explanation of the origin of these variations, it now seems necessary to stop for a while in this course of study and investigate the subject deductively. We must follow out to their logical conclusions all the laws of mechanics and physics that we know to be at work in the atmosphere. The Editor has collected many of these and is safe in stating that there are many diurnal movements and changes going on in the atmosphere that can produce second or third terms in the harmonic development, but it is not always easy to foresee what their relative importance may be. Hann, as a meteorologist, has now brought the problem up to a stage in the inquiry where the ablest mathematical students must take hold of it, and they will, doubtless, find it worthy of their genius. We doubt not that the source of the semi-diurnal terms will be found within the atmosphere itself.

RIVER DISCHARGES IN COLORADO.

The total quantity of water discharged per second by various rivers in Colorado, together with the height of the river at the gage, is published by Mr. F. H. Brandenburg in the July report of the Colorado Section. The measurements are made by the Hydrographic Division of the United States Geological Survey. The majority of the streams maintained an unusually high average during July. The discharge of the Arkansas was 46 per cent, and that of the South Platte, 38 per cent above the normal. The discharge of the Rio Grande was 146 per cent above normal, or nearly 2½ times the normal. The importance of rain-gage stations at high points in the mountains, so as to represent the whole watershed of the rivers has already been mentioned in the MONTHLY WEATHER REVIEW by Messrs. Newell and Pressley of the United States Geological Survey.

BACK NUMBERS OF THE MONTHLY WEATHER REVIEW.

Prof. H. A. Rowland, Johns Hopkins University, desires to obtain the numbers of the MONTHLY WEATHER REVIEW for the year 1882 to complete his set.

THE WEATHER OF THE MONTH.

By ALFRED J. HENRY, Chief of Division of Records and Meteorological Data.

PRESSURE.

The pressure distribution for the month is graphically shown on Chart IV. As in the preceding month, the pressure was relatively high on both coasts, being lowest in the Plateau region and at the mouth of the St. Lawrence. The great high areas of both the Atlantic and Pacific, especially the latter, seem to have maintained their winter positions longer than usual. Pressure in the interior of the continent was also higher than usual. As compared with the preceding month pressure fell in the lower Lake region and generally